The Small Spark Theory

A New Cosmology of Local Origin

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Abstract

The Small Spark Theory proposes an alternative to the standard Big Bang cosmological model. Rather than an initial singularity containing all matter-energy of the universe, this theory postulates a local triggering event within a preexisting, vast and stable universe. The observable universe would be merely a "reaction bubble" within a much greater vastness, still inaccessible to our instruments and perception.

I. Fundamental Premises

1.1 The Preexisting Universe

Before our observable universe existed (and still exists) a vast, stable Universe in a state of robust chemical/physical equilibrium. This state was not a compressed singularity, but a uniform and low-density distribution of matter-energy in equilibrium.

1.2 The Original Spark

At a specific moment and place (Point A), a disruptive event occurred: the introduction of an "original ion" - an asymmetric element, a rupture in homogeneity. This ion came from a distant region of the Vastness, still unexplored and unknown.

1.3 The Chain Reaction

Like an ionic catalyst in a chemical solution, this element triggered a nearly instantaneous chain reaction, propagating in all directions from Point A. This reaction, though lightning-fast, is not instantaneous - it respects the inviolable temporal sequence.

II. Cosmological Mechanisms

2.1 Propagation and Direction

The original ion instantly creates a **direction** in the preexisting universe. This point becomes the orientation pole from which energy converges or diverges. Perfect symmetry breaks not through compression but through **informational polarization**.

The reaction propagates from Point A, creating a sphere of expansion - our observable universe. The propagation speed is near-luminous, explaining the apparent observed uniformity.

2.2 Thermal Elevation

As in almost all chemical reactions, this transformation generates heat. What standard cosmology interprets as the "primordial hot plasma" is simply the **heat of reaction** from this local universal transformation.

This heat, initially intense, gradually dissipates as the reaction stabilizes, explaining the observed cooling (cosmic microwave background at 2.7 K).

2.3 Primordial Magnetic Polarization

The original ion creates not only a spatial direction but generates a **primordial magnetic field** that propagates with the chain reaction. This magnetic polarization traverses the entire expansion bubble, creating the fundamental architecture of the observable universe.

2.4 Formation of Magnetically Linked Structures

Current concentrations - galaxies, clusters, stars - are the **precipitates** of this cosmochemical reaction, but unlike the pure gravitational model, these structures are **magnetically interconnected**.

Matter does not organize itself in isolation under the effect of gravitation alone, but aligns along the **magnetic field lines** generated by the original spark. The universe thus forms a network, a living cosmic fabric where each structure is connected to others by magnetic filaments.

The vast intergalactic voids are not randomly empty zones, but regions situated **between** magnetic field lines, where matter could not concentrate.

III. The Observable Center

3.1 Existence of Point A

Unlike the Big Bang model where "every point is the center," The Small Spark Theory postulates a **real and identifiable spatial center**: Point A where the spark occurred.

Observed from a higher dimension or with a sufficiently vast vision, our observable universe would appear as a sphere expanding from this original point.

3.2 Current Invisibility

From inside this expansion bubble, the center is diluted, drowned in the apparent homogeneity created by the uniform propagation of the reaction. However, in principle, this center could be found by tracing back the expansion trajectories.

IV. The Unexplorable Vastness

4.1 Beyond Our Bubble

Our "observable universe" is merely a local incident in a single but incomparably larger Universe. Beyond our cosmological horizon extends the Vastness - perhaps still in its pre-reaction state, perhaps dotted with other similar bubbles created by other sparks.

4.2 Origin of the Ion

The original ion comes from this exterior Vastness. Its arrival in our stable region was an accident, a migration, a probabilistic event in immensity. The question of its ultimate origin remains the fundamental mystery.

4.3 A Single Universe

There is no multiverse - no parallel, disconnected universe bubbles. There is only one Universe, but our perception and instruments can only access a tiny fraction: the region affected by our local Small Spark.

V. Implications and Predictions

5.1 Uniformity of the Cosmic Background

The remarkable uniformity of the cosmic microwave background is naturally explained: the chemical reaction propagates at constant speed in all directions from Point A, generating homogeneous heat throughout the reaction sphere.

5.2 Cosmic Filamentary Structure

The observed "cosmic web" - these filaments of galaxies separated by immense voids - corresponds exactly to the **primordial magnetic field lines**. Astronomical observations showing this network structure confirm the magnetic interconnection predicted by the theory.

5.3 Omnipresent Galactic Magnetic Fields

The existence of magnetic fields in practically all observed galaxies is not a secondary phenomenon generated locally, but the direct heritage of the primordial magnetic field created by the original spark.

5.4 Accelerated Expansion

Accelerated expansion could be explained by the continuation of the reaction at the periphery of our bubble, where it still encounters the stable matter of the Vastness, rather than by a mysterious "dark energy." Magnetic tension at the bubble's boundaries could also contribute to this acceleration.

5.5 Observable Asymmetries

If sufficiently sensitive instruments could detect subtle asymmetries in expansion, cosmic radiation, or **large-scale magnetic polarization**, these variations would point toward Point A - the real center of our observable universe.

5.6 Limits of the Observable

Our cosmological horizon is not an absolute limit of the Universe, but simply the boundary of the zone affected by our local reaction. Beyond: the stable silence of the Vastness.

VI. Distinctions from the Standard Model

Aspect	Big Bang	Small Spark
Origin	Singularity containing entire universe	Local event in preexisting universe
Initial state	Infinite density, infinite temperature	Uniform low-density stable distribution
Expansion	All space-time creates and expands	Chemical reaction propagating in preexisting space
Center	None (every point is the center)	Real and identifiable Point A
Total universe	Observable = the whole	Observable = local bubble in Vastness
Primordial heat	Energy from singularity	Exothermic reaction heat
Cosmic structure	Gravitation alone	Primordial magnetic network + gravitation
Galactic filaments	Amplified quantum fluctuations	Magnetic field lines from the spark

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VII. Open Questions

1. What is the exact nature of the original ion and why does it generate such a powerful magnetic field?
2. How many other "sparks" exist in the Vastness?
3. Can we develop instruments capable of detecting Point A through magnetic triangulation?
4. Is the stable state of the Vastness truly eternal, or itself issued from an anterior process?
5. Is interaction possible between different reaction bubbles? Could they influence each other magnetically?
6. Can the magnetic fields of cosmic structures serve as "memory" of the original orientation toward Point A?
7. Does magnetic tension between distant structures play a role in observed expansion?

VIII. Conclusion

The Small Spark Theory offers a humble and elegant vision of our cosmic place. Our observable universe is not the Whole, but a local event - warming, creative, nearly instantaneous - in a Vastness that infinitely surpasses us.

We are the products of a cosmic chemical reaction, conscious precipitates attempting to understand our own genesis, ignorant that we are merely an island of transformation in an ocean of stability.

The Small Spark is not the birth of all that is. It is simply the birth of all that we can know.

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References for Future Development

- Observational cosmology (cosmic microwave background, expansion)
- Thermodynamics and cosmic entropy
- Chain reaction chemistry and catalysis
- Cosmic inflation theories (for comparison)
- Topology of the observable universe
- Cosmic magnetic fields and large-scale structure